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ABSTRACT

Studies in the field of economics education indicate that teachers prefer content and a subject-oriented curriculum, while students favor a more personal relationship with the teacher and recognition as unique individuals. Mastery of subject matter is not as important to economics students. As a result, the following problems may occur in the teaching and learning process: (1) lack of mutual acceptance of the subject; (2) reduced efficiency of teaching and learning; (3) lower satisfaction levels; and (4) a higher dropout rate. Evidence exists suggesting that implementation of new curriculum and teacher training programs are hindered by these discrepancies. Describing and identifying differences should be a major goal of educational theory. This paper identifies some of the research studies undertaken in this area, along with resultant conclusions and theories. Results indicate that: (1) student problems and needs have received only modest consideration in research; (2) teachers tend to accept responsibility for student success and blame students for failures; and (3) students in economics education programs who are preparing to become teachers begin with student attitudes but change their perspectives to teacher oriented values prior to completing education courses. These changes lead to the failure of well-prepared learning materials. Positive treatment of individual students is crucial to the learning process, and curriculum specialists, administrators, and teachers should plan together to encourage this type of teacher/student relationship. Eighteen tables are included. (JHP)

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Frank Achtenhagen

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Teaching Economics: The role of cognitions on teaching and learning of teachers and students

Paper presented at the Annual Meeting
of the American Educational Research Association,
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I. Objectives

By a series of studies on the field of economics education 1) we could demonstrate that

- teachers seem to favorize a more content-oriented/subject-matter-oriented style whereas
- students seem to favorize a more person- and process-oriented style of interaction.

There are strong assumptions that many problems of the teaching-learning processes may be the consequence of this difference: Problems with mutual acceptance of the subjects; lower effects of teaching and learning; lower satisfaction; higher (and less controlled) rate of drop-outs. But also structural problems may result: There is a strong evidence that aimed effects of the implementation of new curricula or of the introduction of teacher training programs are hindered or paralyzed by an uncontrolled working of these cognitions.

Therefore, the knowledge of those cognitions of teachers and students and their adequate consideration within the teacher education can be estimated as major goal of educational theory.

The paper shows the structure (and also the didactic lacks) of teacher cognitions which were identified by our studies, and discusses some consequences for the cognitions of students. According to the actual theoretical possibilities, the character of these considerations is more explorative and less hypotheses-testing. The major goal is an identification and description of their patterns.

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II. Theoretical assumptions

Cognitions here are of interest in the sense that they are related to instructional processes. Subjective instructional theories can be defined as the sum of cognitions persons will have with regard to teaching-learning-processes. These subjective instructional theories must be compared with objective instructional theories, e. g. the scientifically proved system of hypotheses on teaching and learning. By enunciating and verifying the objective theories, the subjective theories must be considered - predominantly because of the following reasons:

(1) Cognitions in the form of subjective instructional theories do influence teaching and learning acts. They have to be investigated if researchers plan to formulate realistic instructional theories, especially if there are efforts to introduce new curricula. (At the same time, a contribution to the ecological validity of teaching-learning-research was made).

(2) There exists a reflexivity of subjective and objective theories on classroom behavior: If one of them changes the other will alter as well - this is true in both directions.

(3) The knowledge of subjective instructional theories helps the researchers and the teacher educators to influence the behavior of teachers and to train teacher students in a more effective way.

(4) The introduction of a new subject usually is mainly concentrated on the content. But with regard to the instructional processes teachers also need knowledge on the interactional context,

especially on the needs, expectations, and judgments of the students.

Under these suppositions we have tried for more than ten years to develop a subject-centered didactic theory (mainly in the field of teaching economics and business administration) which would be action oriented and at the same time can serve as a basis for a teacher training program. We define action (which is influenced by cognitions) as a goal oriented activity by which an actor (the teacher) tries to reach or to stabilize a satisfactory condition by appropriate and acceptable measures. Important in this connection is the possibility of choice, e. g. the existence of realistic alternative teaching acts (cf. HOFER 1981, p. 159). Therefore, we are interested to learn about the nature of perceptions of such alternatives as part of the cognitions of experienced teachers and vice versa of teacher students.

A highly interesting work upon the state of research concerning "Teachers' Thought Processes" can be found in the survey of CLARK/PETERSON 1986, whereas the article following in the Handbook "Students' Thought Processes" (WITTROCK 1986) scores comparatively weak on research results.

This difference seems to us neither accidental nor arbitrary. On the contrary, it shows that the problems and requirements of students have found only modest consideration in research. It can be set forth that cognizance concerning the needs and wants of his students enables a teacher to teach his classes both more effectively and agreeably for all participants concerned.

In several studies we explorated and tested these facts (ACHTENHAGEN/HEIDENREICH/SEMBILL 1975; ACHTENHAGEN/SEMBILL/STEINHOFF 1979; SEMBILL

1984; VAN BUER/ACHTENHAGEN/OLDENBURGER 1986; a summary can be found in ACHTENHAGEN 1984).

Major results were that for teachers very important dimensions of their subjective instructional theory appear to be

(1) knowledge of the subject-matter and learning materials;

(2) capability to teach;

(3) adequate preparation of the students for their examinations.

Whereas it seems that

(4) emotional relationships to students and student needs do not matter much within the teachers' cognitions.

Similar results were reported by CLARK/PETERSEN 1986, p. 288 - especially MUNBY 1983.

On the other hand: The most important dimension of student cognitions, the subjective instructional theory of students, appears to be the emotional relationship between a teacher and individual students and to be esteemed as an individual person. For students, mastering the subject-matter is of seemingly lesser consequence.

Methods used included closed-item-questionnaires, interviews, free answer alternatives regarding fixed questions, and also classroom observations. The outcome has shown itself to be very stable. We and other colleagues have replicated it several times (cf. OSER/KLAGHOFER 1986).

On the basis of these studies, we tried to investigate teacher cognitions on interactional processes and asked the following questions:

(1) Is it possible to identify a teacher perspective of problems of the teacher-student interactions?

(2) Is it possible to identify a student perspective of these problems?

(3) As we know from teacher training courses one of the main problems of teachers is the lack of students' active participation (the other is to solve discipline problems):
Which causes are responsible for that phenomenon?

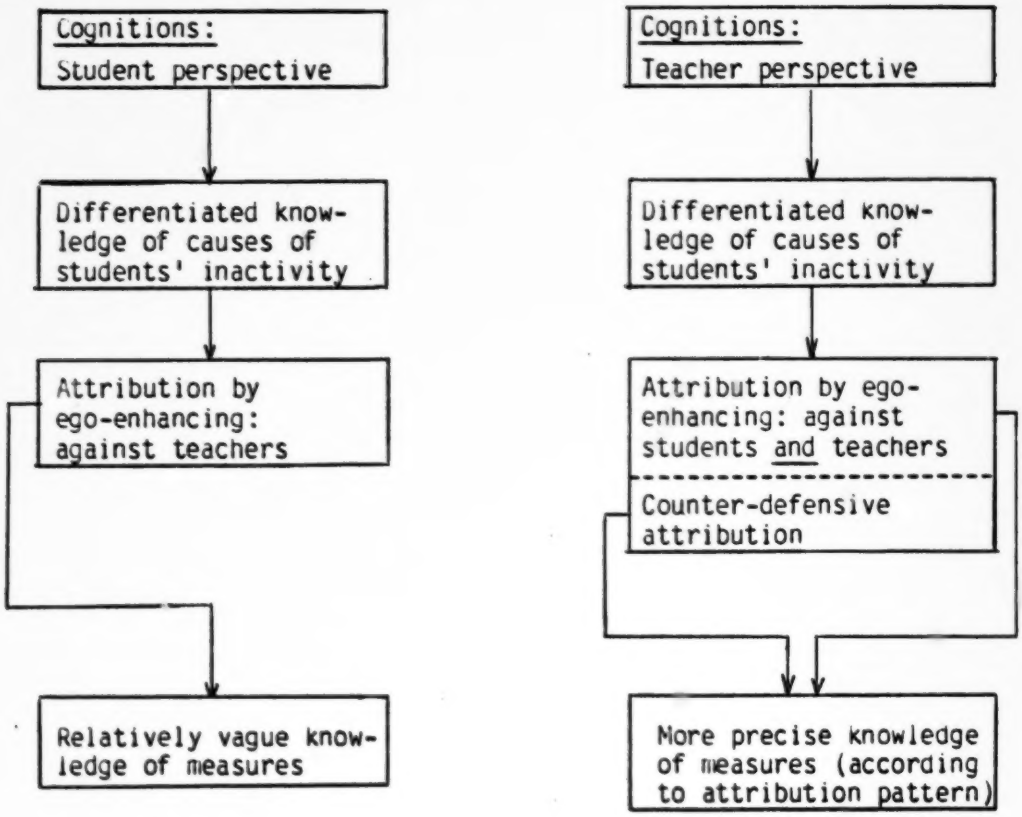
(4) Are there patterns of attribution found in relation to the causes?

(5) Which measures are judged as appropriate to solve the causes?

(6) Do differences exist between different groups of teachers and teacher students?

Figure 1 shows the organization of the studies. We ran three studies with different groups. The first group, teacher students, were assigned to the exploration of a student perspective. For that perspective a collection and a judgment of causes of students' inactivity were conducted. We tested the pattern of attribution. As the given situation was a negative one we proved the attribution pattern of ego-enhancing (cf. CLARK/PETERSON 1986, p. 282): "Ego-enhancing or self-serving attributions occur when, as a result of being a participant in the social interaction, teachers attribute a student's successful performance to themselves as teachers and a student's failure to factors others than the teacher. Teachers thereby enhance their egos by accepting responsibility for students' successes while blaming the students for their failures". These arguments can be used vice versa to describe the ego-enhancing attribution of students. The attribution theory hypothesizes that a person's causal attribution will be affected by whether the person is acting in the situation or

Figure 1: Design of the studies


Cognitions:
Student perspective
Differentiated knowledge of causes of students' inactivity
Attribution by ego-enhancing: against teachers
Relatively vague knowledge of measures
Cognitions:
Teacher perspective
Differentiated knowledge of causes of students' inactivity
Attribution by ego-enhancing: against students and teachers
Counter-defensive attribution
More precise knowledge of measures (according to attribution pattern)

First study

Teacher students

Second study

Teacher trainers, principals, administrators

Third study

Teacher students without school practice

... Teachers students with school practice

observing it (cf. JONES/NISBETT 1971). If the students are the observers (the student perspective of classroom), they will attribute against the teacher.

Then we tested the knowledge of measures in relation to the causes and attribution pattern.

We assumed that the teacher students will prefer a student perspective of teacher-student interaction.

In the second study we questioned teacher trainers, principals, and school administrators. We did this to evaluate the strict pattern of ego-enhancing attribution: On the one hand teachers against students, on the other students against teachers. We assumed that the attribution patterns of persons who have to train, to manage, to administrate teachers and schools would attribute against teachers and students. Those persons know that problems in schools and classrooms are caused by both groups. On the other hand: those persons are forced to run their school effectively. Therefore, they have to look for constructive measures. We believed that there could be the counter-defensive attribution pattern beside a teacher oriented ego-enhancing pattern: "Counter-defensive attributions occur when the teacher accepts responsibility for student's failures and gives credits to the students themselves for successes" (CLARK/PETERSON 1986, p. 282). Nevertheless, we expected a strong teacher perspective.

Our third study served as replication of the first. But we also wanted to control the effect of teacher training with school practice-related exercises. So we investigated two groups: one without schoolpractice and one with school practice. If the teacher training is effective, there must be consequences on the cognitions.

III. Collection of data

The first study was run by RISCHMÜLLER 1982. He presented two main questions to a group of teacher students of economics and business administration in Göttingen (n = 68) 2):

(a) According to your personal judgment: What is the cause of a student not actively contributing to the teaching-learning processes?

(b) According to your personal judgment: What should a teacher do in this situation?

Each teacher student could give up to five answers for each of the two questions. These answers were evaluated and condensed by content analyses into 20 variables relating to "causes" and into 16 variables relating to "measures". These 36 variables were written on index cards and returned to the teacher students. Firstly, the teacher students had to judge individually each of the causes on its importance (1: = very important; 2: = important; 3: = less important) and, secondly, each of the measures on its appropriateness (1: = very appropriate; 2: = appropriate; 3: = less appropriate). The judgments were noted on a prepared sheet of paper. The averages of these judgments can be found in tables 1 and 2 (see list of tables). Then the students had to work only with the cards classified as "very important" resp. "very appropriate" and "appropriate". For each of the "very important"-causes they had to sort the cards in the following way:

IF a student does not actively contribute ...,
BECAUSE ... (card with the cause) ...,
THEN ... (card or cards with the measure(s)).

The cause-cards were used only one time; the measure-cards could be used several times for different causes. The assignment had to be entered into the prepared sheet of paper. From the assignments a causes x measures-matrix was developed (table 3). The procedure is leaning on the repertory grid technique.

The second study was run 1985 during a training course for almost all top executives of the Austrian commercial school system (n = 52). For reason of time, the teacher trainers, principals, and administrators had to work with the 20 cause-cards and 16 measure-cards developed by the teacher students. They had to manipulate the cards in an identical way.

The third study was to be a replication of the first. There were two groups of teacher students, one without school practice (n = 68), and one with school practice (n = 48). Again the participants had to formulate causes and measures - in relation to the same two questions. The recommendations then were reduced to 33 causes and 22 measures by means of content analysis. New cards were written and had to be handled in the same way as in the other studies.

IV. Results

The tables with important findings will be found in the appendix. In the following, they will be discussed in extracts - following the design as given in figure 1.

In the first study, RISCHMULLER 1982 investigated GÖTTINGEN teacher students. The assumption has been that teacher students on the average have saved a student perspective of classroom interaction. This can be shown by an inspection of

(a) the variety of causes,

(b) the attributions by using the causes,

(c) the vagueness of measures.

Table 1 shows the ranks of causes of students' inactivity for all 20 causes. The ranks were determined by the averages of judgments. It indicates for instance cause 10 "teacher's behavior does not allow students' active participation" with the highest average-jugdment on importance (rank 1) and cause 7 "students extracurricular interests" on rank 20. The items reveal in their variety that the teacher students do have a large knowledge of conditions of students' inactivity.

If one observes the meaning of the causes, it can be seen that the most important causes are attributed against the teacher's behavior whereas the less important are student related causes. This result can be interpreted as an ego-enhancing pattern of students: The teachers are responsible for the lack of students' activity; students must be motivated. The interpretation is that teacher students are largely judging from a student perspective. According to JONES/NISBETT 1971: From the imagination of classroom situations (won by at least 13 years of school) the observers (the judging teacher students) attribute the

causes for a certain situation to the acting persons while those attribute to the situations. From the perspective of the teacher students the actor is or has to be the teacher.

Which measures do the teacher students name? Table 2 shows the ranks of measures against students' inactivity. Studying these, a high degree of abstraction becomes evident as against the variety of causes named. The highest rated measures are very vaguely defined. Here one can perceive that the measures were named by novices.

In comparing table 1 and table 2, one can conclude: teacher students with at least 13 years of school experience are endowed with a relatively differentiated "awareness of causes" but own only a relatively limited "awareness of measures" (cf. RISCHMÜLLER 1982, p. 178).

Table 3 comprises the distribution of very important causes and very appropriate and appropriate measures for the causes. The row numbers disclose that single causes are attributed to measures to a different extent. The causes in table 1, ranking as very important or important, show an absolutely greater nexus with measures than the causes with lower ratings. Cause 10 "teacher's behavior does not allow students' active participation" gets most measures attributed (n = 248). Among the measures for this cause, the highest consent is found: D (to reflect the teaching behavior; n = 48), F (to design the teaching-learning-processes together with the students; n = 38), I (to plan class together with students; n = 28), O (to work in small groups; n = 25), H (to check own behavior toward students; n = 24).

The teacher students construct a perception-field in which the teacher gets a relatively high amount of possibilities to counteract

insufficient participation of his students by changing his instruction to a "student-oriented" classroom behavior. The named measures stay rather vague. The teacher students are relatively helpless when the lack of class participation is caused by student actors: As for "extracurricular interests", "students' lack of preparation for class", "students' problems to concentrate", and "students' personal problems" the would-be teachers apparently do not know any appropriate measures. It is also important to point out that teacher colleagues are not estimated as experts to ask for advice (measure N).

These results can lead to a consequence for the further development of hypotheses on teacher cognitions: Teacher students do have assumptions on teaching-learning processes and are able to verbalize them independently of being forced to act. But the answers show no relation to a controled capacity to act.

According to their structure, the cognitions of teacher students show a student perspective. Two questions remain:

- As the literature reports attributions of teachers against students (cf. CLARK/PETERSON 1986) - the teacher perspective: At what point is the perspective shifting from the students' view to that of teachers?
- Is it possible to save within a teacher training cognitions which are related to students' needs?

In the second study we investigated 52 top executives of the Austrian commercial school system (which includes schools comparable to American high schools). They had to handle the index cards with the 20 causes and the 16 measures in an identical fashion as the teacher students from Göttingen did.

There was one methodological difference: The categories to be rated were externally given, not developed by content analysis of specific groups.

Table 4 shows the causes, as they were weighted by the Austrian executives. The result largely corresponds with the one shown in table 1: The causes are primarily attributed to teacher behavior. We suppose that an external observer perspective is working, because the executives constantly judge teachers. They often have to interfere with and to solve problems which lead back to teachers' behavior. In that case, the student perspective and the external observer perspective show an identical pattern. This is also demonstrated by a high rank correlation coefficient between the ranks of causes of tables 1 and 4 (= 0,84; cf. table 7a). In detail, a tendency to a more experienced view of classroom behavior can be seen. This problem will be discussed later.

Table 5 turns out the corresponding ranks of measures against students' inactivity. Comparing these ranks to those of the students (table 2), one can on the average observe a distinct reference to experience. The order of categories indicates a more precise handling of problems. This result does not surprise. But again it is to notify that the Austrians had to answer to given categories and therefore, they had no chance to develop their own categorical system of causes and measures. It must be pointed out that again the teacher colleagues are not respected as experts regarding didactic problems.

Table 6 contains the causes x measures - matrix for the teacher trainers, principals, and administrators. Here we can formulate comparable statements as done for table 3. Important is the fact that

again the problem "treatment of individual students" drops out. This seems to be a general problem of action-related educational knowledge.

Tables 1 and 2 as well as tables 4 and 5 were constructed on the basis of the judgments over all categories, whereas tables 3 resp. 6 in comparison show only the categories which were selected and sorted by each questioned person individually as very important causes resp. as very appropriate and appropriate measures. In order to control a possible occurence of rank order displacements, caused by the selection, rank correlation coefficients (Spearman) (e. g. between the ranks of causes in table 1 and the ranks of sums of causes in table 3) were calculated. Table 7 shows the results.

Regarding the causes (table 7a), we note that in each case the intraclass rank correlation is very high (0,94 resp. 0,91). The interclass rank correlation is also marked as high. This can be interpreted, in regard to the "knowledge of causes", as a fairly high correspondence. The measures form an other picture because here the coefficients are marked much weaker. That suggests that it does make a difference whether one is just listing measures or attributes them to specific causes. There are no significant interclass correlations. This can interpreted with regard to the difference in teacher expertise: the well versed teachers attribute the measures to the causes in a more precise manner.

Interesting is the coefficient for all Austrians (- 0,01). This value, taken as an average, hints that regarding action-relation the knowledge of measures is being differently activated. But there is another assumption: Our experiences with other field studies lead to the expectation that behind this intraclass correlation coefficient

subgroups with different patterns of judgments and attributions exist. This will be discussed after the interpretation of table 8.

The analysis of causes shows an attribution against teachers; on the other hand, the ranking of measures indicates an experienced teacher perspective. To prove this question more in detail we conducted a comparison of rankings of measures for Göttingen teacher students and Austrian teacher trainers, principals, and administrators (table 8).

The teacher students prefer a student perspective whereas the well versed teachers share on the average the teacher or teacher trainer view. This is demonstrated by the changes of ranking: The largest differences (from the student perspective) are given for items F (to design the teaching-learning processes together with the students), I (to plan class together with students), and A (to take into consideration the students' personal experiences). On the other hand: From a experienced teacher perspective, the largest differences of rankings refer to items C (to present subject-matter more interesting), H (to check own behavior towards students), and P (to vary the teaching media).

We used the differences to prove the existence of different patterns of teacher perspective. For that reason we chose the items C and H as distractors: The experienced teacher on the average ranked them very high; at the same time these measures turn out the largest differences to the judgments of the teacher students. For each of the 52 Austrian executives was marked whether he used these items within his if-then-connections (table 6). The well versed teachers who used items C and H as measures for certain causes were assigned to a group with a teacher perspective (n = 22); here we assumed cognitions of teaching without regard to the needs of students. With all due caution, it can be

concluded that this perspective of classroom fosters a pattern of ego-enhancing attribution against students. On the other hand, all experienced teacher who did not use these measures within their if-then-judgments were assigned to a group with a teacher perspective which takes into account the students' needs (n = 23; shortly, we speak of "student perspective"). With all due caution, we assume that this perspective is very close to the pattern of counter-defensive attribution. This subgroup of teacher trainers, principals, and administrators is convinced of the fact that the acceptance of the individual student's needs betters the school climate and the school effectiveness. 7 Austrians could not b assigned to one of these groups.

As the basis for table 6 we used two matrices: one with all causes x all persons and one with all measures x all persons. We decomposed these matrices according to our subgroups and constructed two new causes x measures matrices. The rank orders were won by the frequencies within the marginal distributions of these matrices.

Table 7b turns out the differences between the groups and helps to understand the coefficient of -0,01 in table 7a. Firstly, there is no significant correlation between the two groups. This result indicates that we succeeded to design (linear) independent subgroups. As compared with the overall judgments of measures, the coefficients show a high correlation with the subgroup with teacher perspective. The same effect turns out with the correlations betweeen the marginal distributions of the different matrices. The plausibility of designing the subgroups is demonstrated by the significant correlation between the subgroup with the students' needs perspective and the judgments of the teacher students.

The Austrian data therefore can be interpreted on the average under the well versed teacher perspective-hypothesis - with hints for the existence of a dichotomous attribution pattern.

For practical needs of teacher training it is interesting to visualize the pattern of measures which are prefered by the expert teachers. For that purpose I illustrate the main structure of the relations between measures. Table 9 shows a net of measures which has been won by an evaluation of the correlation matrix over all measures. The net contains all significant correlations. It demonstrates the importance of the planning dimension which kept stable even against a series of manipulative multivariate analyses. The circled variables always ranked on the first factor. The experienced teachers on the average judge measure A as the central: "to take into consideration the students' personal experiences". This result has to be seen before the background of both commercial schools and schools which are comparable with American high schools. I suppose that also for courses in economics and/or business administration this category is the crucial one. The central items of the teachers perspective subgroup form a separate subnet. This result indicates the necessity to decompose intraclass effects.

Having arrived at these results I concerned myself with the problem whether or not the findings for the teacher students were stable. Therefore I replicated in 1985 the RISCHMÜLLER-study of 1962 with students of the same faculty. Two modifications had been done:

(i) We decided to verify the category system. So we did not use the previous 20 causes and 16 measures but instead collected new answers and condensed them to 33 causes and 22 measures.

(ii) We divided the sample into two groups: students without school practice (n = 68; freshmen, 1st - 5th term) and students with school practice (n = 48; senior students, 6th term and above). In the middle of our course a long school phase is conducted in which the students get their practical training - tutored by our staff and other teachers. The total amount of our subject "Economics Teaching" comprises about 308 hours over 4 - 5 years (8 - 10 terms). Some 84 hours are reserved for the practical course whithin the university studies 3).

By dividing the sample, we wanted to control average effects on the judgments. Is there a shifting of judgments from a student perspective to a teacher perspective?

Table 10 indicates the ranking of causes of students' inactivity for the teacher students without school practice. According to the judgments of the younger teacher students, we see the great responsibility of the teachers especially with regard to the cognitive and affective domain. The emphasis on the affective statements ("students' anxiety of teacher's reaction"; "lack of teacher's ability to motivate") makes clear the strong student-perspective on part of the freshmen. The judgments in direction of "less important causes" give the same impression: "Bad organizational circumstances", "subject-matter is too easy", "students' lack of knowledge", "students' lack of preparation for class", "students' show consument behavior", are not examples of a teacher's perspective but of a student perspective of classroom and teaching.

Table 11 contains the ranking of 22 measures against students' inactivity named by the younger teacher students. The measures with the highest judgments of appropriateness indicate vagueness. They are

very general and not applicable in the teacher-students-interaction. It is also interesting to observe the measures which are judged in direction of less appropriate: "To lower the level of subject-matter", "to request students to utter", "aid by colleagues", "to praise students", "change of media". The average judgments of these measures can be interpreted as given from a student's view.

The causes x measures-matrix (table 12) repeats these results. The causes with the highest numbers of counts (4: lack of teacher's ability to give interesting lessons; 3: lack of teacher's ability to motivate) demonstrate in the sums as well as in the relation to the recommended measures which are very unspecific the students' perspective of the teacher students without school practice. Causes 33 (bad organizational circumstances), 16 (students' lack of preparation for class), 18 (students' lack of knowledge) give vice versa an alike impression.

Interpreting the distribution of measures points in the same direction: The measures with the highest frequencies are very vague. Low scoring measures (U: to lower the level of subject-matter; Q: to request students to utter; D: aid by colleagues) show the same effect. Table 16 indicates the high rank correlations between the distributions of ranks for causes (tables 10 and 12) and for measures (tables 11 and 12): in both cases 0,90.

Table 13 includes the ranks of causes for the Göttingen teacher students with practical training (n = 48). The picture is similar to that of table 10 although some specific causes rank higher. The same effects are true for tables 14 and 15. The data interpretation of senior students corresponds highly with those of the freshmen.

Nevertheless there are differences as the lower correlation coefficients show.

Table 17 compares the rankings of measures for both groups of teacher students. The question was whether or not there are first signs of a change from a student perspective to a teacher perspective of the classroom. The changes of ranking give an indication that there is, on the average, a shift in the direction of teacher perspective. The positive rankings for the younger students (+9: group work and projects; +5: teacher shall encourage students to participate; +3,5 change of methods; +2: interesting teaching behavior) are vague and not directly action-related. On the other hand the positive rankings for the older students (e. g. the negative rankings for the younger) show that there is a remarkable change towards the view of experienced teachers: -8,5: Teacher's better preparation for class; -7: to improve teacher-student-interaction; -5,5: to consider the learning suppositions; -3: teacher shall show his goals; -2,5: to praise students; -2: to discuss with students the lack of activities.

To improve this impression we controlled the significant differences between the judgments on measures for the students without and with school practice. Table 18 shows these differences according to the overall ranking of judgments. The direction of the differences indicates in an other way the beginning change of perspective. The means of the judgments of older teacher students show a more teacher centered view of instructional planning than it can be found for the younger who judge the vaguer items more important and the more precise less important.

A last step is the comparison of the nets of measures formed on the basis of the correlation matrices. Whereas the matrix for the freshmen

- and, corresponding, the factor analyses - shows an unstructured net (no table), the net of measures proposed by the senior students presents a plausible structure (table 19). We use this table to introduce objective theories into the course program for the teacher students of economics.

This is especially important with regard to our main results: On the one hand we know that it is necessary for a good instruction to foster the emotional dimension of class and to better the teacher-student relationship. On the other hand our analyses indicate that we succeed to change the perspective of teacher students into a teacher oriented one. This process is accompanied with certain attribution processes against students - the ego-enhancing syndrom. Therefore we try to combine these results - under concentration on the net structure - with a counter-defensive perspective, e. g. to foster a realistic view of classroom together with an emphasis on the students' needs.

V. Some conclusions

The cognitions of teacher students and experienced teachers showed an ego-enhancing attribution pattern: from a student perspective against teachers, from a control of teachers perspective against teachers. Vice versa, there also exists the similar pattern from a teacher perspective against students.

This pattern can block the intended effects of new curricula or teacher training programs. Therefore, it is necessary to identify and to describe these cognitions.

These cognitions are knowledge-related, not action-related, that means that we assume a difference of whether a judgment is made on questions provoked by index cards or on problems in natural classroom situations.

Teacher training thus needs

- to focus on the broad spectrum of causes and to compare it with special results of objective theories;
- to focus on the needs of the individual student;
- to focus on the precise use of adequate measures - a main task of didactic technologies;
- to focus on the cooperative aspect of classroom management: to esteem colleagues as experts;
- to focus on field experiments within the teacher training - controlled, but free of sanctions - with measures against causes.

A major problem turns out by our studies: The more experienced the teachers, the more precise the measures, the more important the loss of students' needs has been. By which means can it be handled to foster a counter-defensive attribution pattern togetner with a

didactic expertise? Our results indicate that there is a chance to give of positive answer to this question.

In short:

(1) The lack of adequate knowledge on student cognitions and adequate pattern of teaching acts in the classroom can be judged as the main reason for the fact that a lot of very well prepared curricula and learning materials do fail in the school practice. Very good plans do not work.

(2) It is necessary and it seems to be possible to reveal, by this kind of investigation, relatively stable and effective judgments of teachers and teacher students. It also provides information on the direction of change of these cognitions.

(3) Sufficient knowledge on these cognitions foster methods of implementation and teacher training and re-training. Especially the treatment of individual students seems to be a crucial point.

(4) For the purpose of development, implementation, and evaluation of the necessary didactic knowledge it seems to be helpful to form teams of curriculum specialists, administrators, principals, and teachers: to run a new curriculum together with an adequate treatment of the students - considering their needs within the classroom ineractions and the curricular program.

References

1) The universitarian subject "Economics Education" (Wirtschafts-pädagogik) comprises in the German-speaking countries the didactic of all subjects in general and commercial schools and also in teaching-learning processes in enterprises.

2) The studies of these teacher students are finished after 4 - 5 years with a diploma which corresponds to a master degree in business administration (Diplom-Handelslehrer). It is the highest level of German teacher education.

3) Following the diploma, a second phase of teacher training over a two year period is held at a seminary which is controlled by the state ministery and apart from the university.

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Table 1: Ranks of causes of students' inactivity
(Göttingen teacher students 1982; n = 68)

Rank	Number of cause	Causes	$\bar{x}$	s
1	10	Teacher's behavior does not allow students' active participation	1,05	0,21
2	16	Teacher did not foster and reinforce students' activities	1,30	0,55
3	12	Teacher's inability of explaining the subject-matter	1,37	0,57
4	14	Teacher's didactic inability	1,43	0,58
5	13	Disturbed teacher-students relationship	1,45	0,61
6	20	Goals and meanings of lessons cannot be realized by students	1,45	0,63
7	11	Teaching is boring	1,49	0,53
8	19	Students' difficulties with the quantity of subject-matter and the teaching-speed	1,55	0,63
9	18	Students' personal experiences are not taken into consideration	1,55	0,66
10	15	Subject-matter is too difficult for the students	1,70	0,78
11	4	Students' anxiety of giving a wrong answer	1,78	0,71
12	6	Students' resignation	1,90	0,88
13	9	Students dislike the teacher	1,92	0,79
14	3	Students' shyness and lack of self-confidence	1,96	0,77
15	17	Students are indifferent to school and show consument behavior	1,97	0,74
16	5	Students' personal problems	2,12	0,73
17	8	Students' problems to concentrate	2,18	0,67
18	2	Quiet and reserved student	2,18	0,78
19	1	Students' lack of preparation for class	2,42	0,60
20	7	Students' extracurricular interests	2,47	0,68

(Judgments: 1: = very important; 2: = important; 3: = less important) (cf. RISCHMÜLLER 1982)

Table 2: Ranks of measures against students' inactivity
(Göttingen teacher students 1982; n = 68)

Rank	Number of measure	Measures	$\bar{x}$	s
1	D	To reflect the teaching behavior	1,27	0,48
2	K	To reduce anxiety; to create a timidless atmosphere	1,33	0,56
3	F	To design the teaching-learning processes together with the students	1,34	0,51
4	A	To take into consideration the students' personal experiences	1,40	0,55
5	R	To expose the own goals	1,45	0,59
6	E	To praise and reinforce the students	1,45	0,61
7	I	To plan class together with students	1,46	0,59
8	G	To enter into a student's view; to reinforce quiet students	1,49	0,59
9	C	To present subject-matter more interesting	1,60	0,68
10	L	To abolish difficulties of understanding; to ask questions more unterstandable	1,66	0,62
11	M	To talk to students personally outside of class	1,84	0,71
12	H	To check own behavior towards students	1,98	0,49
13	B	To ask for the reasons and causes of students' lack of active participation	2,00	0,60
14	P	To vary the teaching media	2,00	0,72
15	O	To work in small groups	2,05	0,64
16	N	To ask teacher colleagues for their experiences with class and individual students	2,47	0,66

(Judgments: 1: = very appropriate; 2: = appropriate; 3: = less appropriate)
(cf. RISCHMÜLLER 1982)

Table 3: Causes x Measures-Matrix
(Göttingen teacher students; n = 68)

if \ then	A=1 To take into consideration the students' personal experiences	B=2 To ask for the reasons and causes of students' lack of active participation	C=3 To present subject-matter more interesting	D=4 To reflect the teaching behavior	E=5 To praise and reinforce the students	F=6 To design the teaching-learning processes together with the students	G=7 To enter into a student's view; to reinforce quiet students	H=8 To check own behavior towards students	I=9 To plan class together with students	K=10 To reduce anxiety; to create a tiniless atmosphere	L=11 To abolish difficulties of understanding; to ask questions more understandable	M=12 To talk to students personally outside of class	N=13 To ask teacher colleagues for their experiences with class and individual students	O=14 To work in small groups	P=15 To vary the teaching media	K=16 To expose the own goals	Σ
Students' lack of preparation for class	1	2	1	1	2	-	3	1	1	3	1	1	2	1	1	-	2	22
Quiet and reserved student	2	7	2	2	2	12	1	14	2	3	13	-	8	2	8	-	-	76
Students' shyness and lack of self-confidence	3	5	3	-	-	16	3	18	4	2	18	1	11	1	8	-	-	90
Students' anxiety of giving a wrong answer	4	7	7	-	2	19	1	13	13	-	23	5	13	3	9	-	-	115
Students' personal problems	5	2	7	-	-	-	-	2	-	1	2	-	13	2	-	-	-	29
Students' resignation	6	8	12	3	6	12	7	6	7	9	6	1	8	3	2	1	3	96
Students' extracurricular interests	7	4	-	-	-	-	3	2	-	4	-	-	3	1	-	-	-	16
Students' problems to concentrate	8	1	3	4	3	1	2	2	-	1	-	-	2	-	4	4	1	27
Students dislike the teacher	9	1	8	1	6	3	3	1	15	1	9	2	11	2	-	-	5	66
Teacher's behavior does not allow students' active participation	10	15	15	9	48	3	38	3	24	28	5	5	2	1	25	17	10	248
Teaching is boring	11	14	7	26	27	1	21	1	5	20	1	6	1	2	12	22	4	170
Teacher's inability of explaining the subject-matter	12	5	10	10	23	-	8	-	14	7	1	27	-	3	8	13	5	134
Disturbed teacher-students relationship	13	2	12	-	11	5	8	2	30	6	22	7	17	6	-	1	17	146
Teacher's didactic inability	14	7	10	19	20	-	10	1	11	7	1	23	1	2	10	17	6	145
Subject-matter is too difficult for the students	15	13	10	11	16	3	10	2	6	11	5	23	2	2	8	8	3	133
Teacher did not foster and reinforce students' activities	16	13	13	3	15	24	21	26	26	24	7	2	8	-	14	4	2	202
Students are indifferent to school and show consument behavior	17	11	6	4	8	1	15	4	4	16	2	-	1	2	9	5	5	91
Students' personal experiences are not taken into consideration	18	36	9	1	9	-	17	2	2	22	1	1	6	1	6	1	2	116
Students' difficulties with the quantity of subject-matter and and the teaching-speed	19	10	9	2	16	2	15	1	6	18	2	15	2	2	3	4	6	113
Goals and meanings of lessons cannot be realized by students	20	11	7	2	12	2	19	1	2	21	3	6	2	-	1	2	37	128
	Σ	117	151	98	226	104	205	103	172	204	122	125	113	36	128	99	108	2165

Table 4: Ranks of causes of students' inactivity (n = 52)

(Austrian teacher trainers, principals, administrators)

Rank	Number of cause	Causes	$\bar{x}$	s
1	12	Teacher's inability of explaining the subject-matter	1,42	0,61
2	14	Teacher's didactic inability	1,48	0,61
3	19	Students' difficulties with the quantity of subject-matter and the teaching-speed	1,49	0,60
4	10	Teacher's behavior does not allow students' active participation	1,52	0,67
5	13	Disturbed teacher-students relationship	1,58	0,66
6	20	Goals and meanings of lessons cannot be realized by students	1,61	0,74
7	11	Teaching is boring	1,64	0,63
8	16	Teacher did not foster and reinforce students' activities	1,71	0,72
9	15	Subject-matter is too difficult for the students	1,79	0,69
10	18	Students' personal experiences are not taken into consideration	2,00	0,74
11	5	Students' personal problems	2,02	0,67
12	6	Students' resignation	2,11	0,71
13	17	Students are indifferent to school and show consument behavior	2,13	0,76
14	1	Students' lack of preparation for class	2,15	0,78
15	8	Students' problems to concentrate	2,16	0,72
16	4	Students' anxiety of giving a wrong answer	2,16	0,78
17	9	Students dislike the teacher	2,18	0,73
18	7	Students' extracurricular interests	2,32	0,73
19	3	Students' shyness and lack of self-confidence	2,60	0,55
20	2	Quiet and reserved student	2,71	0,56

(Judgments: 1: = very important; 2: = important; 3: = less important)

Table 5: Ranks of measures against students' inactivity (n = 52)

(Austrian teacher trainers, principals, administrators)

Rank	Number of measure	Measures	$\bar{x}$	s
1	C	To present subject-matter more interesting	1,33	0,51
2	K	To reduce anxiety; to create a timidless atmosphere	1,34	0,58
3	E	To praise and reinforce the students	1,46	0,67
4	H	To check own behavior towards students	1,54	0,70
5	D	To reflect the teaching behavior	1,57	0,63
6	G	To enter into a student's view; to reinforce quiet students	1,64	0,59
7	R	To expose the own goals	1,64	0,77
8	L	To abolish difficulties of understanding; to ask questions more understandable	1,65	0,68
9	P	To vary the teaching media	1,79	0,75
10	A	To take into consideration the students' personal experiences	1,83	0,72
11	O	To work in small groups	1,89	0,67
12	B	To ask for the reasons and causes of students' lack of active participation	1,92	0,68
13	F	To design the teaching-learning processes together with the students	1,94	0,75
14	M	To talk to students personally outside of class	1,98	0,68
15	I	To plan class together with students	2,12	0,73
16	N	To ask teacher colleagues for their experiences with class and individual students	2,32	0,73

(Judgments: 1: = very appropriate; 2: = appropriate; 3: = less appropriate)

Table 6: Causes x Measures-Matrix
(Austrian teacher trainers, principal administrators; n = 52)

If \ then	A=1 To take into consideration the students' personal experiences	B=2 To ask for the reasons and causes of students' lack of active participation	C=3 To present subject-matter more interesting	D=4 To reflect the teaching behavior	E=5 To praise and reinforce the students	F=6 To design the teaching-learning processes together with the students	G=7 To enter into a student's view; to reinforce quiet students	H=8 To check own behavior towards students	I=9 To plan class together with students	K=10 To reduce anxiety; to create a timidless atmosphere	L=11 To abolish difficulties of understanding; to ask questions more understandable	M=12 To talk to students personally outside of class	N=13 To ask teacher colleagues for their experiences with class and individual students	O=14 To work in small groups	P=15 To vary the teaching media	R=16 To expose the own goals	Σ
Students' lack of preparation for class	1	3	1	-	-	2	1	2	1	1	1	-	1	1	-	1	16
Quiet and reserved student	-	-	1	-	-	-	2	1	-	1	-	-	-	-	-	-	5
Students' shyness and lack of self-confidence	-	-	-	-	1	-	-	-	-	1	-	1	-	-	-	-	3
Students' anxiety of giving a wrong answer	-	-	-	-	3	-	5	2	-	5	1	3	-	2	-	-	21
Students' personal problems	-	1	-	-	1	-	2	-	-	-	-	8	1	-	-	-	13
Students' resignation	1	-	2	1	2	-	-	3	-	3	-	3	-	-	-	1	16
Students' extracurricular interests	2	3	3	1	-	1	-	-	-	-	-	2	-	1	-	1	14
Students' problems to concentrate	1	1	3	1	-	-	-	-	1	-	1	1	1	4	3	-	17
Students dislike the teacher	1	1	-	1	3	1	-	2	1	3	-	1	-	-	-	-	14
Teacher's behavior does not allow students' active participation	2	3	1	7	-	11	2	6	5	3	2	-	1	9	1	-	53
Teaching is boring	2	3	13	5	-	5	1	1	2	1	1	-	-	3	6	-	43
Teacher's inability of explaining the subject-matter	2	-	3	13	-	2	1	5	2	1	7	1	3	2	4	-	47
Disturbed teacher-students relationship	-	3	-	4	3	3	2	10	1	10	4	6	-	-	-	3	49
Teacher's didactic inability	2	-	11	12	1	1	1	3	3	1	8	-	1	1	1	3	49
Subject-matter is too difficult for the students	1	1	1	4	-	2	1	2	2	1	5	1	2	1	4	-	28
Teacher did not foster and reinforce students' activities	4	2	-	3	7	3	5	5	3	1	2	2	1	2	1	1	42
Students are indifferent to school and show consument behavior	1	3	2	2	-	1	2	-	1	1	-	-	-	2	3	1	19
Students' personal experiences are not taken into consideration	10	-	2	2	1	2	2	1	-	-	-	-	-	-	-	-	20
Students' difficulties with the quantity of subject-matter and and the teaching-speed	3	2	4	8	-	5	1	1	7	2	6	-	-	4	1	4	48
Goals and meanings of lessons cannot be realized by students	3	2	3	5	-	4	-	-	6	-	4	-	-	-	1	11	39
Σ	36	29	50	69	22	43	28	44	35	35	42	29	11	32	25	26	556

Table 7a: Rank correlations between causes resp. measures (GÖ: Göttingen teacher students; AU: Austrian teacher trainers, principals, administrators)

	GÖ: Causes/ Measures	AU: Causes	AU: Causes/ Measures
GÖ: Causes	0,94	0,84	0,88
GÖ: Causes/ Measures	-	0,75	0,85
AU: Causes	-	-	0,91

	GÖ: Measures/ Causes	AU: Measures	AU: Measures/ Causes
GÖ: Measures	0,44	0,36	0,15
GÖ: Measures/ Causes	-	- 0,16	0,39
AU: Measures	-	-	- 0,01

Table 7b: Rank correlations between measures (GÖ: Göttingen teacher students; AU-SP: Austrian teacher trainers, principals, administrators with student perspective, n = 23; AU-TP: Austrian teacher trainers, principals, administrators with teacher perspective, n = 22)

	AU-TP: Measures/ Causes	AU (all): Measures	AU (all): Measures/ Causes	GÖ: Measures
AU-SP: Measures/ Causes	0,13	- 0,05	0,52	0,48
AU-TP: Measures/ Causes	-	0,59	0,82	0,25

$p = 0,05$: $r_s \geq \pm 0,40$ (causes); $\pm 0,46$ (measures)

Table 8: Comparison of rankings of measures for Göttingen teacher students (Gö) and Austrian teacher trainers, principals, administrators (AU)

Change of ranking	Gö	AU	Measures
0	K (2)	K (2)	To reduce anxiety; to create a timidless atmosphere
	N (16)	N (16)	To ask teacher colleagues for their experiences with class and individual students
1	B (13)	B (12)	To ask for the reasons and causes of students' lack of active participation
- 2	R (5)	R (7)	To expose the own goals
+ 2	G (8)	G (6)	To enter into a student's view; to reinforce quiet students
	L (10)	L (8)	To abolish difficulties of understanding; to ask questions more understandable
- 3	M (11)	M (14)	To talk to students personally outside of class
+ 3	E (6)	E (3)	To praise and reinforce the students
- 4	D (1)	D (5)	To reflect the teaching behavior
+ 4	O (15)	O (11)	To work in small groups
+ 5	P (14)	P (9)	To vary the teaching media
- 6	A (4)	A (10)	To take into consideration the students' personal experiences
- 8	I (7)	I (15)	To plan class together with students
+ 8	C (9)	C (1)	To present subject-matter more interesting
	H (12)	H (4)	To check own behavior towards students
- 10	F (3)	F (13)	To design the teaching-learning processes together with the students

Table 9 : Net of measures (Austrian teacher trainers, principals, administrators)

(-: $p \leq 0,05$; =: $p \leq 0,01$)

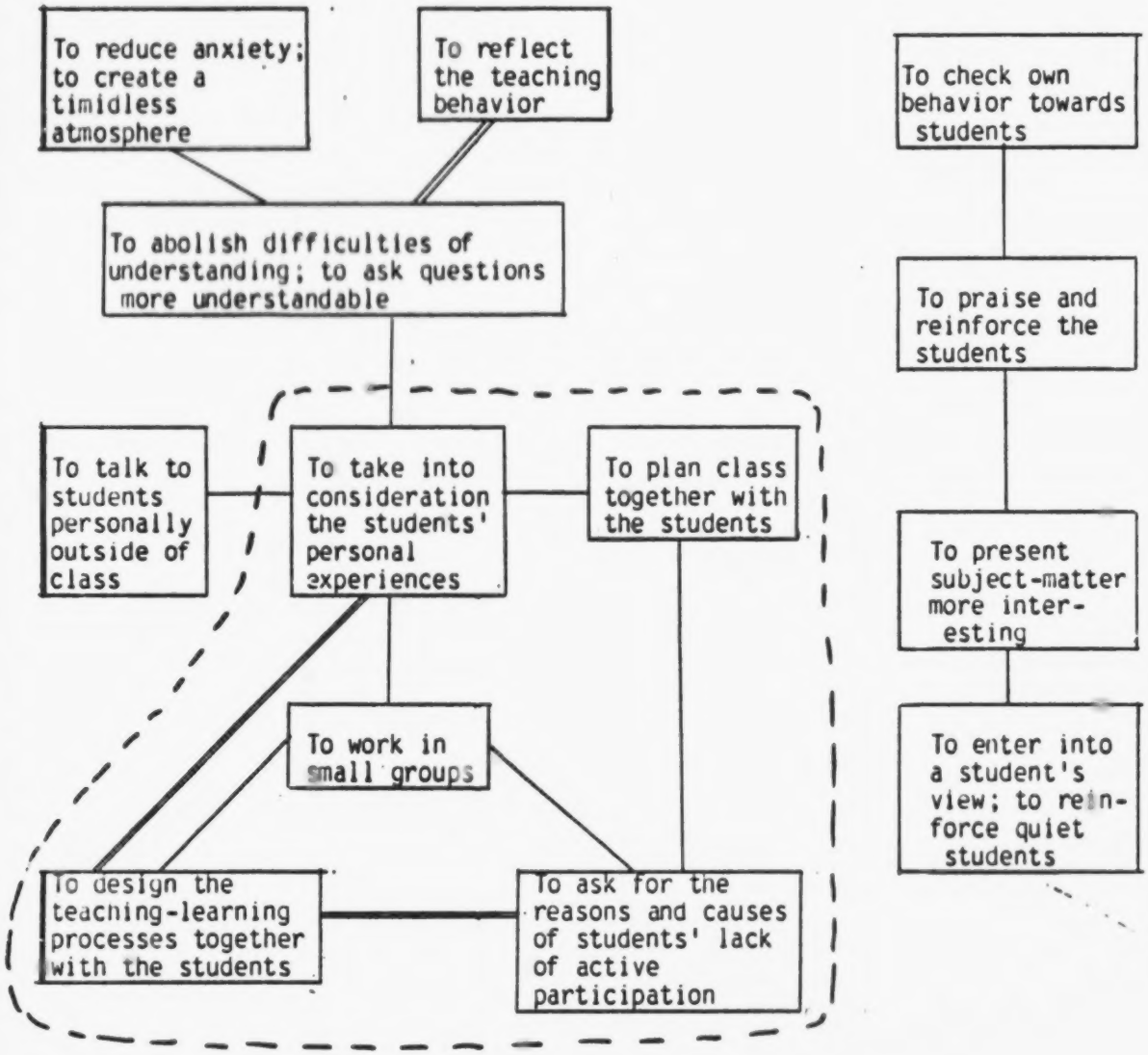
To reduce anxiety; to create a timidless atmosphere
To reflect the teaching behavior
To check own behavior towards students
To abolish difficulties of understanding; to ask questions more understandable
To praise and reinforce the students
To talk to students personally outside of class
To take into consideration the students' personal experiences
To plan class together with the students
To present subject-matter more interesting
To work in small groups
To enter into a student's view; to reinforce quiet students
To design the teaching-learning processes together with the students
To ask for the reasons and causes of students' lack of active participation

Table 10: Ranks of causes of students' inactivity (n = 68)

(Göttingen teacher students - without school practice, 1985)

Rank	Number of cause	Causes	$\bar{x}$	s
1	4	Lack of teacher's ability to give interesting lessons	1,26	0,54
2	20	Students' anxiety of teacher's reaction	1,40	0,61
4	3	Lack of teacher's ability to motivate	1,47	0,69
4	9	Teacher fails to enter into students' interests	1,47	0,65
4	27	Disturbed teacher-students relationship	1,47	0,59
6	21	Students' anxiety of students' reaction	1,48	0,65
7	25	Students' fear of giving a wrong answer	1,56	0,64
8,5	1	Lack of teacher education	1,68	0,83
8,5	6	Teacher teaches subject-matter too abstractly	1,68	0,70
10	26	Instruction does not appeal to students	1,73	0,71
11	10	Students' general anxiety	1,79	0,83
12	24	Students cannot follow the teacher	1,82	0,76
13	8	Teacher fails to substantiate goals and subject-matters	1,84	0,77
14	2	Lack of teacher's personality	1,92	0,80
15	12	Students' private problems	1,94	0,74
16	15	Students' lack of motivation	1,95	0,71
17	5	Teacher's activities cut down students' activity	1,97	0,77
18	17	Students' lack of interest on subject-matter	2,02	0,76
19	30	Subject-matter cannot be put into practice	2,10	0,69
20	22	Students' antipathy against the teacher	2,13	0,64

21,5	23	Students' physical and psychic detraction and distraction	2,15	0,74
21,5	28	Subject-matter is too difficult	2,15	0,70
23	31	Subject-matter is not interesting	2,18	0,74
24	14	Students' general shyness and reserve	2,21	0,70
25	7	Teacher does not insist on students' activity	2,27	0,77
26	11	Students' general lack of interests	2,31	0,78
27	32	Students' resignation over bad labour-market	2,32	0,74
28	13	Students' general negative attitude to learn	2,35	0,68
29	19	Students show consument behavior	2,37	0,77
30	16	Students' lack of preparation for class	2,40	0,66
31	18	Students' lack of knowledge	2,44	0,64
32	29	Subject-matter is too easy	2,55	0,62
33	33	Bad organizational circumstances	2,61	0,58

(Judgments: 1: = very important; 2: = important; 3: = less important)

Table 11: Ranks of measures against students' inactivity (n = 68)

(Göttingen teacher students - without school practice, 1985)

Rank	Number of measure	Measures	$\bar{x}$	s
1	A	Teacher shall improve his behavior	1,24	0,43
2	G	Students' participation in instructional planning	1,30	0,52
3	N	Interesting teaching behavior	1,31	0,47
4	O	To produce confidental teacher-students relationship	1,40	0,55
5,5	E	Teacher shall enter into students' needs	1,52	0,61
5,5	K	Practice-related instructional planning	1,52	0,56
7,5	J	Groupwork and projects	1,60	0,70
7,5	T	To motivate students	1,60	0,70
9	S	To improve teacher-student-interaction	1,61	0,65
10,5	B	To find out causes by personal talks with students/parents	1,64	0,71
10,5	I	Change of methods	1,64	0,60
12	M	To reduce students' anxiety	1,66	0,59
13	V	To consider the learning suppositions	1,67	0,61
14	L	Teacher shall encourage students to participate	1,70	0,67
15	F	Teacher shall show his goals	1,71	0,69
16	C	Teacher's better preparation for class	1,78	0,62
17	R	To discuss with students the lack of activities	1,81	0,78
18	H	Change of media	1,84	0,59
19	P	To praise students	1,85	0,68
20	D	Aid by colleagues	2,34	0,59
21	Q	To request students to utter	2,57	0,63
22	U	To lower the level of subject-matter	2,69	0,47

(Judgments: 1: = very appropriate; 2: = appropriate; 3: = less appropriate)

Table 12: Causes x Measures-Matrix

(Göttingen teacher students - without school practice, 1985)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1	22	3	13	11	1	1	4	1	2	0	1	1	4	0	4	0	1	2	5	1	2	1	80
2	14	3	0	2	2	1	4	3	4	1	1	0	5	1	6	1	1	4	6	1	0	0	60
3	28	5	11	6	12	18	21	19	19	18	16	9	18	1	6	16	4	8	11	16	1	7	270
4	27	3	23	14	14	6	32	33	32	27	22	5	23	0	1	2	0	2	4	2	0	2	289
5	14	0	3	2	12	3	17	4	5	14	1	4	4	2	1	0	2	5	8	3	0	2	106
6	12	2	15	1	15	13	10	17	15	15	25	2	11	0	1	0	1	4	4	1	2	15	182
7	11	2	0	1	7	1	8	0	0	8	1	7	3	0	0	1	1	2	5	3	0	0	61
8	12	1	9	3	6	23	3	1	0	1	7	1	1	0	1	0	0	3	5	0	0	7	84
9	33	11	8	1	28	5	18	1	4	3	4	11	3	4	12	7	4	7	23	4	1	12	204
10	15	15	0	0	8	3	6	0	0	8	1	10	0	33	27	16	3	3	19	3	2	6	178
11	7	5	2	1	6	2	11	7	8	7	6	2	8	1	3	0	1	1	5	4	1	5	93
12	1	18	0	1	9	0	0	0	0	0	0	2	0	4	16	0	0	2	7	3	0	7	70
13	2	5	1	1	3	2	4	0	1	2	2	3	1	2	4	0	0	1	2	4	1	2	43
14	1	3	0	0	3	0	3	0	0	2	0	10	0	9	9	7	4	1	6	3	0	1	62
15	5	6	3	1	6	7	10	8	10	6	7	6	11	2	3	7	2	3	3	13	0	4	122
16	0	1	0	0	1	0	2	0	0	1	0	1	0	0	0	0	0	0	1	2	0	0	9
17	3	4	5	1	7	7	9	8	8	6	14	3	9	0	0	2	0	3	2	6	0	3	104
18	0	0	0	0	2	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	1	4	11
19	3	2	2	0	1	1	9	3	5	8	5	2	3	1	0	1	1	1	2	6	0	1	57
20	34	14	0	2	8	5	14	0	1	7	1	20	1	42	37	26	2	8	33	5	1	8	269
21	6	18	1	2	7	0	11	0	2	20	1	13	0	33	18	11	2	8	8	3	0	4	168
22	8	4	0	2	2	0	1	0	0	0	0	1	0	2	9	1	0	1	6	0	0	2	39
23	1	9	0	1	4	0	3	1	0	0	0	4	4	1	6	1	0	3	5	2	0	4	51
24	16	1	12	0	12	13	13	6	7	4	14	0	5	3	1	0	1	3	4	0	6	22	143
25	20	12	1	1	6	2	6	1	2	9	1	20	1	33	27	21	4	5	20	6	1	6	205
26	21	5	13	2	15	7	15	13	21	13	16	5	14	2	3	1	0	11	10	1	0	11	199
27	30	21	3	3	15	11	9	0	1	0	0	2	1	14	31	8	0	15	30	1	0	4	199
28	2	1	1	0	6	2	5	3	5	3	7	2	2	2	0	0	1	2	2	2	4	13	85
29	0	1	2	1	2	0	1	0	0	0	1	1	1	0	0	0	0	2	2	1	0	5	20
30	2	0	2	1	4	3	6	4	4	9	13	2	6	1	1	0	0	1	0	1	0	3	63
31	2	3	5	1	5	6	9	10	16	8	8	0	6	1	0	0	0	0	0	3	0	2	73
32	1	5	0	1	3	0	3	2	1	2	2	1	3	2	1	0	0	5	2	2	0	0	36
33	0	3	1	1	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	5
	353	178	143	64	232	142	268	145	167	203	187	150	149	196	231	129	36	118	240	108	23	163	3622

(The names of the categories can be found in tables 10 and 11).

Table 13: Ranks of causes of students' inactivity (n = 48)
(Göttingen teacher students - with school practice, 1985)

Rank	Number of causes	Causes	$\bar{x}$	s
1	4	Lack of teacher's ability to give interesting lessons	1,27	0,45
2	27	Disturbed teacher-students relationship	1,29	0,56
3	3	Lack of teacher's ability to motivate	1,32	0,57
4	9	Teacher fails to enter into students' interests	1,44	0,63
5,5	6	Teacher teaches subject-matter too abstractly	1,54	0,60
5,5	26	Instruction does not appeal to students	1,54	0,60
7	20	Students' anxiety of teacher's reaction	1,56	0,74
8	8	Teacher fails to substantiate goals and subject-matters	1,61	0,67
9	24	Students cannot follow the teacher	1,63	0,73
10	25	Students' fear of giving a wrong answer	1,66	0,69
11,5	1	Lack of teacher education	1,71	0,81
11,5	21	Students' anxiety for students' reaction	1,71	0,75
13	32	Students' resignation over bad labour-market	1,83	0,80
14,5	12	Students' private problems	1,88	0,75
14,5	15	Students' lack of motivation	1,88	0,75
16,5	2	Lack of teacher's personality	1,90	0,80
16,5	10	Students' general anxiety	1,90	0,80
18	22	Students' antipathy against the teacher	1,93	0,75
19	5	Teacher's activities cut down students' activity	1,95	0,74
20,5	14	Students' general shyness and reserve	2,00	0,74
20,5	30	Subject-matter cannot be put into practice	2,00	0,81
22,5	23	Students' physical and psychic detraction and distraction	2,05	0,77
22,5	28	Subject-matter is too difficult	2,05	0,71
24	31	Subject-matter is not interesting	2,07	0,65

25	17	Students' lack of interest on subject-matter	2,12	0,75
26	11	Students' general lack of interests	2,22	0,76
27	7	Teacher does not insist on students' activity	2,24	0,77
28,5	13	Students' general negative attitude to learn	2,27	0,74
28,5	33	Bad organizational circumstances	2,27	0,67
30	16	Students' lack of preparation for class	2,37	0,73
31	18	Students' lack of knowledge	2,39	0,74
32	19	Students show consument behavior	2,44	0,67
33	29	Subject-matter is too easy	2,49	0,64

(Judgments: 1: = very important; 2: = important; 3: = less important)

Table 14: Ranks of measures against students' inactivity (n = 48)

(Göttingen teacher students - with school practice, 1985)

Rank	Number of measures	Measures	x	s
1	A	Teacher shall improve his behavior	1,15	0,36
2	S	To improve teacher-student-interaction	1,35	0,53
3	G	Students' participation in instructional planning	1,40	0,54
4	O	To produce confidental teacher-students relationship	1,44	0,58
5	N	Interesting teaching behavior	1,46	0,68
6	E	Teacher shall enter into students' needs	1,50	0,58
7,5	C	Teacher's better preparation for class	1,52	0,58
7,5	V	To consider the learning suppositions	1,52	0,62
9	T	To motivate students	1,56	0,65
10	K	Practice-related instructional planning	1,60	0,61
11	B	To find out causes by personal talks with students/parents	1,63	0,61
12	F	Teacher shall show his goals	1,69	0,70
13	M	To reduce students' anxiety	1,71	0,65
14	I	Change of methods	1,77	0,59
15	R	To discuss with students the lack of activities	1,79	0,62
16,5	J	Groupwork and projects	1,81	0,57
16,5	P	To praise students	1,81	0,70
18	H	Change of media	1,92	0,68
19	L	Teacher shall encourage students to participate	2,00	0,88
20	D	Aid by colleagues	2,25	0,67
21	Q	To request students to utter	2,58	0,58
22	U	To lower the level of subject-matter	2,63	0,53

(Judgments: 1: = very appropriate; 2: = appropriate; 3: = less appropriate)

Table 15: Causes x Measures-Matrix
(Göttingen teacher students - with school practice, 1985)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1	9	2	12	6	1	2	0	2	2	2	1	0	0	1	1	0	0	2	2	0	0	0	45
2	8	0	2	3	0	0	1	2	2	2	1	0	2	0	4	0	0	1	2	0	0	0	30
3	23	3	3	10	10	8	18	11	12	13	10	3	16	1	5	10	1	8	13	14	0	2	199
4	23	0	17	9	12	4	20	19	17	14	10	1	14	1	2	1	0	6	5	3	0	5	185
5	7	0	3	2	4	2	11	2	2	8	0	3	3	1	2	1	2	2	5	1	0	0	61
6	13	3	10	3	7	6	9	11	9	8	15	1	6	1	1	0	1	6	5	3	5	15	136
7	8	0	1	0	2	1	4	0	0	0	0	2	1	0	0	0	1	0	3	4	0	0	27
8	6	1	10	7	5	16	5	1	0	2	3	1	1	0	0	0	0	2	3	0	0	3	66
9	24	2	5	2	20	4	15	0	0	1	2	2	3	1	5	4	2	7	19	5	0	8	131
10	8	7	0	0	2	1	2	0	1	2	0	5	1	15	11	9	0	3	8	1	1	4	81
11	2	2	0	1	4	2	4	4	4	3	5	1	5	0	1	0	0	4	2	4	0	1	49
12	2	10	0	3	7	0	0	0	0	0	0	0	0	3	11	3	1	1	6	1	0	1	49
13	1	2	0	2	3	1	6	2	1	3	1	2	3	0	2	2	2	2	2	5	1	4	42
14	3	3	1	2	5	0	4	0	0	3	0	3	2	5	10	4	1	1	5	5	0	3	60
15	7	6	6	2	8	5	11	10	8	6	7	4	12	0	3	6	1	9	8	15	2	5	139
16	1	2	0	0	1	2	2	0	0	3	1	0	2	0	0	2	0	1	0	0	0	2	19
17	3	2	3	0	3	3	6	5	6	3	6	3	6	0	0	1	0	3	2	4	0	1	62
18	2	1	0	1	3	0	1	0	1	1	0	0	0	1	3	1	0	1	2	1	3	4	26
19	2	0	0	1	1	0	4	0	1	2	1	2	3	0	0	1	1	3	1	2	0	0	25
20	19	9	1	5	6	5	2	0	0	5	0	4	0	24	21	16	2	4	21	2	1	4	151
21	4	5	1	1	0	1	9	0	0	7	0	2	0	16	6	2	0	7	3	1	0	3	69
22	11	5	1	1	2	1	2	0	0	0	0	0	0	3	10	3	0	2	11	1	0	0	54
23	2	5	0	2	3	0	0	1	1	1	0	1	2	1	4	1	0	4	4	1	1	3	37
24	16	7	15	2	10	9	12	3	4	9	11	2	4	2	3	0	2	10	11	2	10	17	162
25	12	4	1	3	2	0	2	0	0	3	1	5	0	19	16	10	2	5	16	5	1	7	120
26	14	5	16	2	10	5	12	13	18	9	11	3	15	0	2	1	0	7	9	3	0	8	161
27	28	15	3	8	15	8	9	0	0	2	0	0	0	14	20	6	1	16	30	3	0	7	192
28	2	1	5	1	2	1	2	2	2	2	2	1	3	1	0	0	1	3	2	3	5	8	49
29	1	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	7
30	3	1	4	4	2	2	3	3	2	2	12	1	3	0	1	0	0	2	2	1	0	2	50
31	0	0	4	2	2	2	2	4	3	1	4	0	4	0	0	0	0	1	1	2	0	0	32
32	1	5	0	2	6	3	3	1	1	2	2	1	1	5	2	0	1	6	1	3	0	2	48
33	0	0	1	0	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	8
	265	111	131	87	159	101	182	97	98	119	107	53	116	115	152	84	22	129	205	97	30	119	1579

(The names of the categories can be found in tables 13 and 14).

Table 16: Rank correlations between causes and measures
(Göttingen teacher students without school practice (YO) vs.
Göttingen teacher students with school practice (OL))

	YO: Causes/ Measures	OL: Causes	OL Causes/ Measures
YO: Causes	0,90	0,92	0,84
YO: Causes/ Measures	-	0,72	0,75
OL: Causes	-	-	0,86

	YO: Measures/ Causes	OL: Measures	OL Measures/ Causes
YO: Measures	0,90	0,92	0,84
YO: Measures/ Causes	-	0,72	0,75
OL: Measures	-	-	0,86

Table 17: Comparison of rankings of measures (Göttingen teacher students without and with school-practice)

Change of ranking	without	with	Measures
0	A (1)	- A (1)	Teacher shall improve his behavior
	O (4)	- O (4)	To produce confidental teacher-students relationship
	H (18)	- H (18)	Change of media
	D (20)	- D (20)	Aid by colleagues
	Q (21)	- Q (21)	To request students to utter
	U (22)	- U (22)	To lower the level of subject-matter
+ 0,5	E (5,5)	- E (6)	Teacher shall enter into students' needs
	B (10,5)	- B (11)	To find out causes by personal talks with students/parents
+ 1	G (2)	- G (3)	Students' participation in instructional planning
	M (12)	- M (13)	To reduce students' anxiety
+ 1,5	T (7,5)	- T (9)	To motivate students
- 2	R (17)	- R (15)	To discuss with students the lack of activities
+ 2	N (3)	- N (5)	Interesting teaching behavior
- 2,5	P (19)	- P (16,5)	To praise students
- 3	F (15)	- F (12)	Teacher shall show his goals
+ 3,5	I (10,5)	- I (14)	Change of methods
+ 4,5	K (5,5)	- K (10)	Practice-related instructional planning
+ 5	L (14)	- L (19)	Teacher shall encourage students to participate
- 5,5	V (13)	- V (7,5)	To consider the learning suppositions
- 7	S (9)	- S (2)	To improve teacher-student-interaction
- 8,5	C (16)	- C (7,5)	Teacher's better preparation for class
+ 9	J (7,5)	- J (16,5)	Groupwork and projects

Table 18: Significant differences between judgments on measures (Göttingen teacher students without and with school practice)

Rank of combined judgments		Measures
1	A	Teacher shall improve his behavior
2	G	Students' participation in instructional planning
3	N	Interesting teaching behavior
5	S	To improve teacher-student interaction
9	V	To consider the learning suppositions
11	C	Teacher's better preparation for class
13,5	Z	Groupwork and projects
13,5	I	Change of methods
17	L	Teacher shall encourage students to participate
20	D	Aid by colleagues

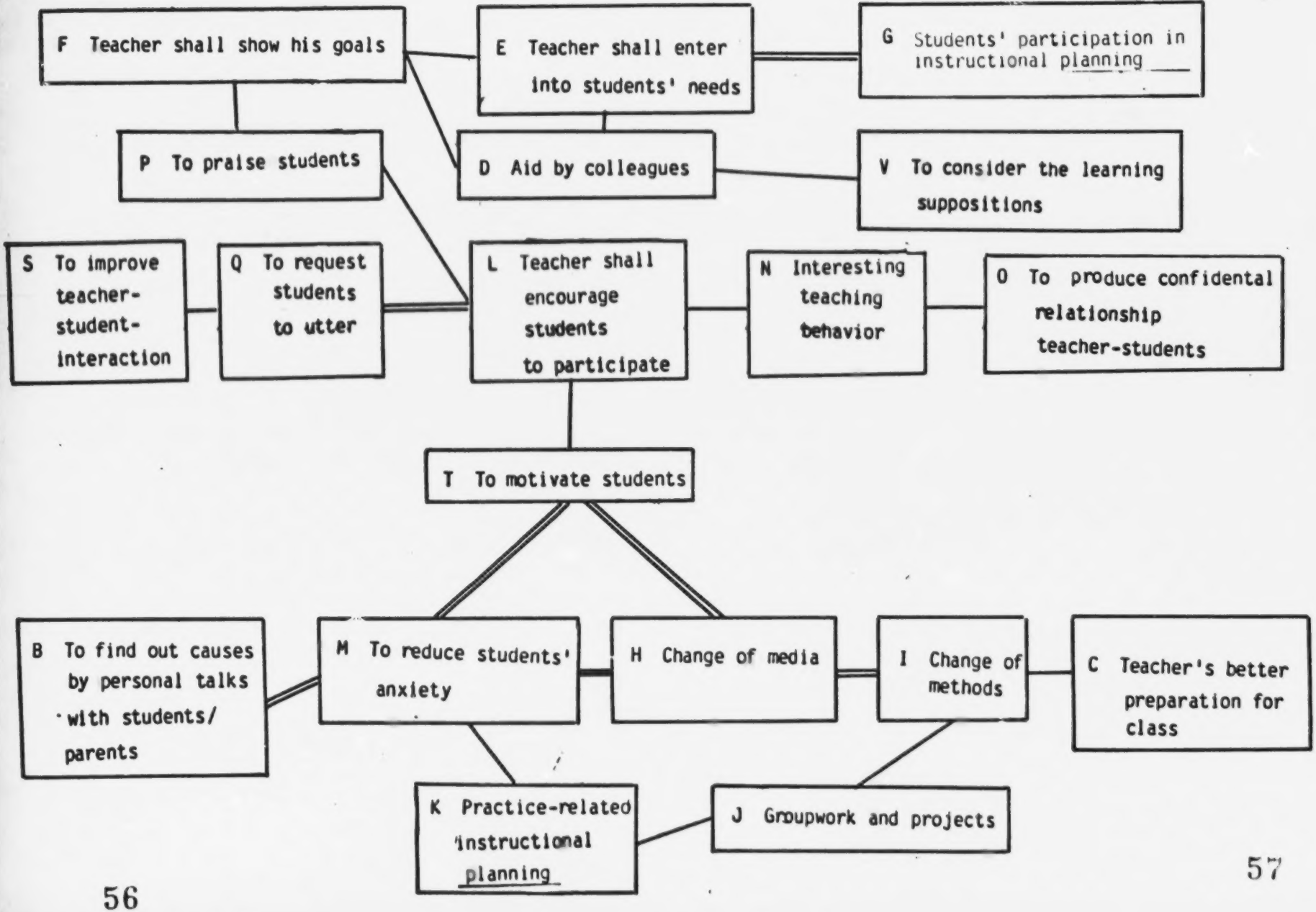
F Teacher shall show his goals
E Teacher shall enter into students' needs
G Students' participation in instructional planning
P To praise students
D Aid by colleagues
V To consider the learning suppositions
S To improve teacher-student-interaction
Q To request students to utter
L Teacher shall encourage students to participate
N Interesting teaching behavior
O To produce confidental relationship teacher-students
T To motivate students
B To find out causes by personal talks with students/ parents
M To reduce students' anxiety
H Change of media
I Change of methods
C Teacher's better preparation for class
K Practice-related instructional planning
J Groupwork and projects

Table 19: Net of measures (Göttingen teacher students with school practice, 1985)
(-: $p \leq 0{,}05$; =: $p \leq 0{,}01$)